

IN THE CLAIMS

1 (Currently Amended). A method comprising:

~~forming a phase change material over a heater in a pore formed in an insulator; so that a first portion of said material extends over said insulator and a second portion of said material extends into said pore.~~

forming a heater in said pore by filling said pore with a conductive material and then removing the upper portion of said conductive material;

filling the upper portion with a phase change material that extends over said insulator;

forming a substantially planar upper surface of said phase change material; and

forming a substantially planar upper electrode over said substantially planar upper surface of said phase change material.

Claims 2 and 3 (Canceled).

4 (Currently Amended). The method of claim 1 3 including planarizing the upper surface of said insulator.

Claims 5 and 6 (Canceled).

7 (Currently Amended). The method of claim 1 6 including patterning and etching said phase change material over said insulator.

8 (Original). The method of claim 7 including forming a T-shaped phase change material.

9 (Original). The method of claim 3 including forming a sidewall spacer in said pore.

10 (Original). The method of claim 9 including depositing metal in said pore after forming said sidewall spacer.

11 (Currently Amended). An A apparatus comprising:

an insulator having a pore formed in said insulator;

a heater formed in said pore; and

a phase change material over said insulator and extending into said pore, said phase change material having a substantially planar upper surface; and

a substantially planar conductive layer formed over said phase change material.

12 (Original). The apparatus of claim 11 wherein said phase change material is arranged in said pore to reduce the occurrence of parasitic conductive paths.

13 (Original). The apparatus of claim 11 wherein said phase change material is T-shaped.

14 (Original). The apparatus of claim 11 including a sidewall spacer in said pore.

15 (Original). The apparatus of claim 11 wherein said pore is substantially filled by said heater.

16 (Original). The apparatus of claim 11 wherein said heater is metallic.

17 (Original). The apparatus of claim 11 including an electrode over said phase change material.

18 (Original). The apparatus of claim 11 wherein said phase change material is an ovonic material.

19 (Original). The apparatus of claim 11 wherein said phase change material is a chalcogenide.

20 (Original). The apparatus of claim 11 wherein the entire upper extent of said pore is filled with said phase change material.

21 (Currently Amended). A system comprising:
a processor-based device; and
~~a wireless interface coupled to said processor-based device; and~~
a semiconductor memory coupled to said device, said memory including an insulator having a pore formed in said insulator, a heater formed in said pore, ~~said phase change material having a substantially planar upper surface, and a substantially planar conductive layer over said phase change material.~~

Claim 22 (Canceled).

23 (Original). The system of claim 21 wherein said phase change material is T-shaped.

24 (Original). The system of claim 21 wherein said phase change material is arranged to reduce the occurrence of parasitic conductive paths.

25 (Original). The system of claim 21 wherein said phase change material is arranged in the upper extent of said pore to prevent the occurrence of a parasitic conductive path through said pore past said phase change material.

26 (Original). The system of claim 21 wherein said phase change material is an ovonic material.

27 (Original). The system of claim 21 wherein said phase change material is a chalcogenide.

28 (Original). The system of claim 21 including a sidewall spacer in said pore.

29 (Original). The system of claim 21 wherein said heater substantially fills said pore.

30 (Original). The system of claim 21 wherein said heater is metallic.

31 (Original). The system of claim 21 including an electrode over said phase change material.